

[Irrigation in Oregon]

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Folklore Collection (or Type)

Title Irrigation in Oregon

Place of origin Portland, Oregon Date 3/6/39

Project worker Manly M. Banister

Project editor

Remarks Social Ethnic

Form A

Circumstances of Interview

Federal Writers' Project

Works Progress Administration

OREGON FOLKLORE STUDIES

Name of worker Manly M. Banister Date March 6, 1939

Address 2071 S. W. Park Avenue

Subject Irrigation in Oregon.

Name and address of informant William Mackenzie, Jr.

1632 S.W. 12th Avenue

Date and time of interview March 3, in the afternoon.

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Place of interview 1632 S. W. 12th Ave., Portland, Oregon

Name and address of person, if any, who put you in touch with informant

Joe McLaughlin — 400 Elks Bldg.

Name and address of person, if any, accompanying you None

Description of room, house, surroundings, etc.

In description of house see interview with the informant's father, William Mackenzie, Senior.

Form B

Personal History of Informant

Federal Writers' Project

Works Progress Administration

OREGON FOLKLORE STUDIES

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1632 S. W. 12th Ave.

Information obtained should supply the following facts:

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1. Ancestry
2. Place and date of birth
3. Family
4. Places lived in, with dates
5. Education, with dates
6. Occupations and accomplishments with dates
7. Special skills and interests
8. Community and religious activities
9. Description of informant
10. Other points gained in interview

I was born and raised in Portland, Oregon. I was born in this house now numbered 1632 S. W. 12th Avenue on May 20, 1898. I am a Republican both by birth and by choice. I volunteered for service in the NIRA in charge of the district of Portland, and distributed pledge cards until the work was turned over to the Democratic Precinct Committee. I was discharged for being a Republican. I was educated at the Portland Academy, which stood where St. Helens Hall is now located. Then I went to the University of California.

My mother came to Oregon in 1870 and my father came here in 1881. She was born in Elizabethtown, New Jersey, but she came here from Ohio. My father came from Stornoway, Scotland.

Form C

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Text of Interview (Unedited)

Federal Writers' Project

Works Progress Administration

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Text:

I did my first irrigating in the Sacramento Valley where we used what is called flood irrigation. In this way of irrigating, the land first is leveled then cut through with ridges about eight inches high and 15 or 16 inches apart, and the water is turned into the check to a given depth, depending upon the soil and the type of crop being grown. The time of irrigating in the Sacramento Valley is from about March until late October. The annual precipitation of that region is about seventeen inches, so a good deal of irrigation is necessary.

Another type of irrigation is called sub-irrigation and is done by flooding water into the soil under the ground. The lands along the Columbia river bottom lands are sub-irrigated. Then there is the overhead sprinkler system used in many types of gardens, and the buried pipes of the lawn sprinkler systems. In eastern Oregon, irrigation is done by both

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pumping and gravity systems. In the irrigation of alfalfa where old stands are involved, flooding is used. First of all, the ground must be leveled so the water will not pool, and to do this the sagebrush is removed and then the land is plowed deeply and harrowed. A floater is put on to carry off the high points. The floater is a beam drawn by horses or a caterpillar tractor, and it performs a scraping action on the ground. After the land is leveled it is seeded and a light irrigation is given after it begins to grow. Later heavier irrigation is given after the plant can sustain itself. Usually about three irrigations are necessary in eastern Oregon for most beneficial results. Flooding old plants is done by cutting the ditch bank and letting the water run out over the land.

When the soil is wet enough to enable the irrigator to stick a shovel into the ground to the throat, then the ground is sufficiently wet and the water is taken off.

In the corrugation system of irrigation, a corrugator is used which has a steel top and steel shoes to make the corrugations about 26 inches apart. These are like little channels and they guide the water. Small heads of water are run into these grooves and left to stand there until the water subs from one groove to the other, that is, it soaks completely through the corrugations.

Various types of gate structures are used and various types of measuring devices. The most prevalent type of measuring device used in Oregon is the Cippoletti weir which is a metal gate about 18 by 32 inches across the ditch. Now we have all kinds and styles of check-boxes. These are structures designed to lift water up that it may flow out over the land. Close to a checkbox sometimes a spile for passing water through a bank without cutting is located. Sometimes also canvas dams are used in place of wood checkboxes, and these are simply a piece of canvas with a board across the top which is laid across the ditch. Then the canvas is simply tucked into the ground at the sides and bottom of the ditch, thus effectively holding back the water. More modern equipment for check boxes are of concrete, but that also is more expensive.

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Once when I was working in Malheur County on the Shoestring Ditch, otherwise known as the Ontario-Nyssa Canal, a support for a flume was burnt out. This incident took place about the summer of 1919. Somebody set fire to a pier to an irrigation flume. The fire consumed the pier and the sheet iron flume dropped. The ditch-rider found it within a few minutes—he couldn't help but know something had gone wrong when the water ceased coming. He called the pump house at once to turn the water some place also so that the flume could be fixed. It wouldn't have done to stop the pump, so that meant they had to work in a hurry. At the pumphouse there was a 32 inch centrifugal pump drawing water from the Snake River, as well as a 16 inch centrifugal pump in the same house. The water was pumped up 100 feet to the ditch through a wooden pipe sixty inches in diameter. After the ditch-rider's call, a wooden panel was thrown across the ditch near the northeast corner of the farm and sandbags put down behind it. The water was then raised as high as it could be raised, which enabled the 16 inch pump to continue pumping, so the use of power was continued. The amount of water we normally used was 256 inches of water in a continuous stream, but now it was coming through a lot faster and I had both taps open wide, drawing the full capacity of both pipes. The total head, I imagine, that was being used was about 800 inches. We irrigated all that night and all the next day before the flume could be repaired and in order to keep the pump from shutting down. In this manner I was able to cover about eight times as much ground as normal, and maybe you think that wasn't a job. I had to use a shovel about every minute I was irrigating. Luckily, this farm was laid out so that more than one head of water could be used at a time, and also so that waste water could be picked up and used as often as practical.

A good illustration of how not to build a ditch is shown in the construction of the Ochoco Project near Prineville. The ditch construction was let to private contractors—and I could say things about the baseball team that came from it, only there is no use going into that—on the famous theory of cost plus ten per cent. The reservoir on the creek never held water for many years because although the dam was an earth-filled dam, the water collecting behind found holes through the rock structure and passed out beneath it. If

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scientific methods such as those that were used at Bonneville had been employed, the dam would never have been placed in the spot selected. Very little water, if any, ever went over the spillway until the holes were finally found and grouted (plugged).

You might say also that irrigation is more of a science than most people believe, for if too much water is put onto the land, water-logging will result. When water-logging takes place in eastern Oregon, the alkali contained in the soil then comes to the surface and precludes the possibility of agricultural development or use and limits the productive quality of crops to almost a negligible quantity. Later, expensive drainage projects must be undertaken to draw off into natural drainage channels the superfluous water. A good example of this is the vast acreage that lies on both sides of the Union Pacific line between Nyssa and Ontario which was drained many years ago by the Nyssa Arcadia Drainage District, I believe it was called. A great many hundred acres of fine, high-producing alfalfa lands went to wrack and ruin through water-logging. Good engineering practices in taking care of drainage waters would have saved the farmers of this area their homes and lands had this District considered the possibility of water-logging. There are many spots throughout eastern Oregon where abandoned irrigation projects are to be found. Tremendous wastes of capital have taken place through promotions where not enough water from seasonal run-off was available. An example of this might be shown by the Orchards Water Co. in the vicinity of Brogan, Oregon. Part of these lands have since been brought in under a pumping project of the Vale, Oregon, branch of the Owyhee Project.

Form

Extra Comment

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Name and address of informant 1632 S. W. Ave.

William Mackenzie, Jr.

Comment:

Mr. Mackenzie is an irrigation engineer and thoroughly knows his business. He is willing to discuss and explain irrigation as a science, but he is loth to reveal facts concerning himself, passing off reference to his own experiences with the remark either that the interviewer would not believe him, or that it is not of sufficient importance to be included.